The following <u>Listing of the Claims</u> will replace all prior versions and all prior listings of the claims in the present application:

<u>Listing of The Claims</u>:

1. (Previously canceled)   A tissue information system, comprising:

a specimen-linked database comprising information about at least one tissue microarray identified by an identifier; and

at least one user device connectable to the network, for displaying an interface onto which a user can input said identifier, said inputting enabling said user to access the database.

2. (Previously canceled)   A method of obtaining tissue information, comprising:

providing a user with a tissue microarray;

providing the user with an identifier which identifies the microarray;

providing the user with access to the system of claim 1, and displaying the interface; and

allowing the user to input the identifier into the interface displayed by the system wherein the system, in response to the user inputting said identifier, displays tissue information relating to the tissue microarray identified by the identifier.

3. (Previously canceled)   A tissue information system, comprising a database, the database comprising a diagnostic matrix which relates the expression of a biological characteristic of a tissue to a disease state; and

a user device connectable to the network, said user device for displaying an interface which enables the user to input information relating to the biological characteristic, in response to which inputting, the system displays information correlating the expression of the biological characteristic to a disease state.

4. (Previously canceled)   A method for obtaining data about a sample in a microarray, said array comprising a plurality of tissue samples, the method comprising the steps of:

a)   providing an interface on a display of a user device connectable to the network;

b)   displaying a plurality of selectable coordinates on said interface, each coordinate representative one of the samples in the microarray and associated with a link for accessing a database, said database comprising information relating to said one of said samples in the microarray; and

c)   allowing a user to select a link associated with one of said coordinates, thereby accessing said database and obtaining information about said sample.

5. (Previously canceled)   A system for ordering customized tissue microarrays, comprising:

a database comprising information about a plurality of tissue samples; and

at least one user device connectable to the network for displaying an interface which provides a plurality of tissue links, wherein selecting one of the links enables a user to access information within the database relating to a tissue identified by said link, and to optionally request that said sample be provided on a tissue microarray.

6. (Amended) A tissue information system, comprising:

a specimen-linked database comprising information about at least one tissue microarray identified by an identifier wherein the tissue microarray comprises samples from a patient;

the specimen-linked database further comprises information regarding a plurality of samples of a known biological characteristic;

a database searching function allowing a user to design queries to obtain information from the specimen-linked database;

a relationship determination function allowing the user to identify relationships between a plurality of biological characteristics; and

at least one user device connectable to a the-network, comprising a display for displaying an interface onto which a user can input said identifier, said inputting enabling said user to access said database.

7. (Original) The tissue information system according to claim 6, wherein said tissue microarray comprises a plurality of sublocations, each sublocation identifiable by coordinates.

8. (Original) The tissue information system according to claim 7, wherein after said user has inputted said identifier, the system displays an interface on said display of said user device, said interface providing a plurality of selectable coordinates corresponding to the coordinates on said tissue microarray, wherein selection of coordinates causes the system to display information about a tissue sample at the sublocation identified by said coordinates.

9. (Original) The tissue information system according to claim 8, wherein each coordinate is associated with a link for linking a user to the database.

10. (Original) The tissue information system according to claim 9, wherein when a user selects the link, an interface providing information categories is displayed, each information category associated with a link to a portion of the database comprising information relating to said information category.

11. (Original) The tissue information system according to claim 7, wherein after said user has inputted said identifier, said system displays an interface on said display of said user device which presents a representation of said tissue microarray.

12. (Original) The tissue information system according to claim 11, wherein said representation comprises images of tissues at different sublocations on said microarray.

13. (Original) The tissue information system according to claim 12, wherein each image is associated with a link for linking a user to said database.

14. (Original) The tissue information system according to claim 7, wherein after said user has inputted said identifier, said system displays an interface on said display of said user device

which comprises one or more fields for inputting coordinates of a sublocation of a tissue

microarray about which the user desires information.

15. (Original) The tissue information system according to claim 14, wherein after said user has inputted coordinates of a sublocation, said system displays an interface providing information categories relating to information available about a tissue sample at said sublocation.

16. (Original) The tissue information system according to claim 6, wherein the database comprises a relational database which relates the expression of a gene to a disease state.

17. (Original) The tissue information system according to claim 16, wherein said disease state is cancer.

18. (Original) The tissue information system according to claim 7, wherein said database comprises an autopsy subdatabase comprising information relating to one or more autopsy procedures.

19. (Original) The tissue information system according to claim 6, further comprising an information management system comprising search and relationship determining functions.

20. (Original) The tissue information system according to claim 6, wherein accessing the database provides information relating to one or more of diagnosis, prognosis, and likelihood of recurrence of a disease.

21. (Original) The tissue information system according to claim 19, wherein said relationship determining function links gene sequence information with clinical information about a tissue source carrying the gene.

22. (Original) The tissue information system according to claim 19, wherein said relationship determining function links gene expression information with clinical information about a tissue source expressing the gene.

23. (Original) The tissue information system according to claim 6, wherein said user device is a computer.

24. (Original) The tissue information system according to claim 6, wherein said user device is a wireless device.

25. (Original) The tissue information system according to claim 6, wherein the system comprises at least one server which comprises data storage media for maintaining the database.

26. (Original) The tissue information system according to claim 19, wherein after a user accesses the system, the system displays an interface on said display of said the user device for inputting information, said inputted information being stored in a portion of the database.

27. (Original) The tissue information system according to claim 26, wherein said inputted information comprises information relating to the expression of biological characteristics of tissues on the microarray, and in response to said inputting, said information management system identifies relationships between said expression and information relating to the sources of said tissues.

28. (Original) The tissue information system according to claim 27, wherein said information relating to the sources of said tissues comprises patient information.

29. (Amended)   The tissue information system according to claim 27, wherein said information management system comprises a statistical program~~performs one or more statistical operations~~.

30. (Amended)   The tissue information system according to claim 29, wherein said ~~one or more~~ statistical program ~~operations~~ comprises non-hierarchical clustering of expression or sequence data with patient data.

31. (Original) The tissue information system according to claim 30, wherein said non-hierarchical clustering is k-means clustering.

32. (Original) The tissue information system according to claim 27, wherein expression information is obtained from tissues which have been exposed to a drug and the tissue information system, after being accessed by the user, displays an interface which provides information relating to one or more of: toxicity, efficacy, adverse effects, and half-life in a patient's circulation of the drug.

33. (Original) The tissue information system according to claim 32, wherein said information management system ranks drugs leads according to numbers or severity of adverse effects.

34. (Original) The tissue information system according to claim 6, wherein records in said database are indexed using SNOMED® codes.

35. (Original) The tissue information system according to claim 6, wherein said system stores newly inputted information in a temporary database until validation by a system operator.

36. (Original) The tissue information system according to claim 6, wherein said database comprises demographic or epidemiological data.

37. (Original) The tissue information system according to claim 6, wherein said database comprises information relating to the biological characteristics of non-human tissues.

38. (Original) The tissue information system according to claim 37, wherein said non-human tissues have been exposed to any of: drugs, antibodies, protein therapies, and gene therapies.

39. (Original) The tissue information system according to claim 6, 37, or 38, wherein said database comprises information relating to cell lines.

40. (Original) The tissue information system according to claim 6, wherein said database comprises molecular profiling data.

41. (Original) The tissue information system according to claim 30, wherein said molecular profiling data is obtained from a population of individuals.

42. (Original) The tissue information system according to claim 6, wherein said database comprises one or more subdatabases selected from the group consisting of: a sequence subdatabase, a protein structure subdatabase, a chemical formula database, an expression pattern subdatabase, a subdatabase comprising information relating to drug targets, a subdatabase comprising information relating to drug leads, a literature subdatabase, a medical history subdatabase, a demographic information subdatabase, and an autopsy subdatabase.

43. (Original) The tissue information management system according to claim 6, wherein said system further comprises data management software providing links to genomic data sources.

44. (Original) The tissue information system according to claim 43, wherein said data management software is Spotfire™ software.

45. (Original) The tissue information system according to claim 19, wherein said search function provides a Natural Language Query function for interpreting natural language inputted into an interface of the user device.

46. (Original) The system according to claim 6, wherein after a user accesses the system, the system displays a plurality of fields on an said display, said plurality of fields comprising information relating to one or more of: pathology, diagnosis, sample type, histology, treatment regimen, node status, expression of a biomolecule, medications being taken, and sites of secondary metastasis.

47. (Previously withdrawn)   A system for ordering customized microarrays, comprising:

a database comprising information relating to a plurality of tissues in a tissue repository;

at least one user device connectable to the network, for providing an interface which displays identifiers, each identifier identifying a different tissue type;

wherein selection of an identifier by a user of the user device communicates a request to a microarray generator to construct a tissue microarray comprising the tissue identified by the selected identifier.

48. (Previously withdrawn)   The system according to claim 47, wherein said system displays on said interface requests for information from the user, said information selected from the group consisting of one or more of: billing information, date required, and shipping information.

49. (Previously withdrawn)   The system according to claim 47, wherein said system displays options to order one or more of nucleic acid arrays or peptide arrays.

50. (Previously withdrawn)   The system according to claim 47, wherein said microarray generator comprises an automatic tissue microarrayer.

51. (Amended)   A method for obtaining tissue information, comprising:

providing a ~~user with a~~ tissue microarray;

providing ~~said user with~~ an identifier which identifies said microarray;

providing said user with access to said system according to claim 6 and displaying said interface onto which said user can input said identifier; and

allowing said user to input said identifier, wherein the system, in response to said inputting, displays an interface on said display of said user device providing tissue information relating to said tissue microarray identified by the identifier.

52. (Original) The method according to claim 51, wherein said tissue microarray comprises a plurality of sublocations, each sublocation identifiable by coordinates.

53. (Original) The method according to claim 51, wherein said system, in response to being accessed by said user, displays on an interface of said display, a plurality of selectable coordinates corresponding to the coordinates on said tissue microarray, each coordinate associated with a link for linking a user to the database.

54. (Original) The method according to claim 52, further comprising selecting coordinates, thereby causing the system to display information about a tissue sample at the sublocation identified by the coordinates.

55. (Original) The method according to claim 53, wherein, in response to said selection of said coordinates, said system displays an interface providing information categories, each information category associated with a link to a portion of the database comprising information relating to the information category.

56. (Original) The method according to claim 51, wherein after said user has inputted said identifier, said system displays an interface on said display of said user device which presents a representation of said tissue microarray.

57. (Original) The method according to claim 56, wherein said representation comprises images of tissues at different sublocations on said microarray.

58. (Original) The method according to claim 53, wherein each image is associated with a link for linking a user to the database.

59. (Original) The method according to claim 51, wherein after said user has inputted said identifier, an interface is displayed on said display which comprises one or more fields for inputting coordinates of a sublocation of a tissue microarray about which the user desires information.

60. (Original) The method according to claim 59, wherein coordinates are inputted into said one or more fields, and in response to said inputting, said system displays an interface providing information categories relating to information available about a tissue sample at said sublocation.

61. (Original) The method according to claim 51, wherein the system further comprises a tissue information management system comprising search and relationship determining functions.

62. (Original) The method according to claim 60, further comprising the step of inputting information relating to one or more biological characteristics of a tissue sample on said microarray, into a new information interface displayed by said system on said display of said user device.

63. (Original) The method according to claim 62, wherein, in response to said inputting, said system provides information relating to one or more of: diagnosis, prognosis, and likelihood of recurrence of a disease.

64. (Original) The method according to claim 62, wherein said one or more biological characteristics comprises gene expression or gene sequence.

65. (Original) The method according to claim 60, wherein the relationship determining function of said tissue information system links gene expression data with information about the source of a tissue on the microarray.

66. (Amended) The method according to claim 61, wherein said information management system ~~performs one or more~~ comprises a statistical program~~operations~~.

67. (Amended) The method according to claim 66, wherein said ~~one or more~~ statistical program ~~operations~~ comprises non-hierarchical clustering.

68. (Original) The method according to claim 67, wherein said non-hierarchical clustering is k-means clustering.

69. (Original) The method according to claim 64, wherein expression data is obtained from tissues which have been exposed to a drug and the tissue information system displays an interface which provides information relating to one or more of: toxicity, efficacy, adverse effects, and/or half-life of the drug.

70. (Original) The method according to claim 64, wherein expression data is stored in a portion of the database comprising molecular profiling data from a population of individuals.

71. (Original) The method according to claim 60, further comprising the step of inputting a search query into an interface displayed by said system, wherein said information management system identifies records in said database related to one or more words in said query.

72. (Original) The method according to claim 71, wherein after said records are identified, links to said records are displayed by said system on an interface of said user device.

73. (Original) The method according to claim 51, wherein said identifier is provided to a user verbally, through an electronic messaging system, through a printed communication, or on said microarray.

74. (Original) The method according to claim 51, wherein said tissue microarray comprises cells from a patient with cancer and said system displays on an interface of said user device, a plurality of fields, said plurality of fields comprising information relating to one or more of: pathology, diagnosis, sample type, histology, treatment regimen, node status, expression of a biomolecule, medications being taken, and sites of secondary metastasis.

75. (Previously withdrawn)   A method for ordering a customized microarray, comprising:

providing a database comprising information relating to a plurality of tissues in a tissue repository;

providing at least one user device connectable to the network, for providing an interface which displays identifiers, each identifier identifying a different tissue type;

enabling a user to select an identifier, wherein said selecting

communicates a request to a microarray generator, and

wherein upon receiving said request, said microarray generator constructs a tissue microarray comprising the tissue identified by the selected identifier.